Michigan Department of Environmental Quality
Water Bureau

ANNUAL REPORT TO EPA ON CAPACITY DEVELOPMENT PROGRAM – FY 2006

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List of Acronyms

Act 399	Safe Drinking Water Act, 1976 PA 399, as amended
ACO	Administrative Consent Orders
AWM	Abandoned Well Management
AWWA	American Water Works Association
CCR	Consumer Confidence Reports
CDP	Capacity Development Program
CIP	Capital Improvement Plans
CMI	Clean Michigan Initiative
CWS	Community Water Systems
DWP	Drinking Water Program
DWRF	Drinking Water Revolving Fund
eDWR	Electronic Drinking Water Reporting
ERP	Emergency Response Plans
FAP	Financial Action Plan
FY	Fiscal Year
JFA	Joint Funding Agreement
LHD	Local Health Departments
LT2	Long Term 2 Enhanced Surface Water Treatment Rule
MCL	Maximum Contaminant Level
MDA	Michigan Department of Agriculture
MDEQ	Michigan Department of Environmental Quality
MHC	Manufactured Housing Community
MiTAPS	Michigan Timely Application and Permitting Service
MMBA	Michigan Municipal Bond Authority
MOR	Monthly Operations Reports
MRWA	Michigan Rural Water Association
NCWS	Noncommunity Water Systems
NTNCWS	Nontransient Noncommunity Water Systems
OTCU	Operator Training and Certification Unit
PWSID	Public Water System Identification Number
RCAP	Rural Community Assistance Program
RUS	Rural Utilities Service
SDWA	Federal Safe Drinking Water Act
SDWIS/Fed	Safe Drinking Water Information System / Federal
SDWIS/S	Safe Drinking Water Information System / State
SME	Subject Matter Experts
SNC	Significant Noncomplier
Stage 2	Stage 2 Disinfectants and Disinfection Byproducts Rule
SWIPP	Surface Water Intake Protection Program
SWPP	Source Water Protection Program
TANS	Threat Advisory Notification System
TMF	Technical, Managerial, and Financial
TNCWS	Transient NCWS
UP	Upper Peninsula
USEPA	United States Environmental Protection Agency
VA	Vulnerability Assessments
WB	Water Bureau
WHPP	Wellhead Protection Program

1.0 Introduction

The 1996 Amendments to the federal Safe Drinking Water Act (SDWA) added provisions for each state to develop a Capacity Development Program (CDP). The objective of the CDP is to enhance public health protection by helping water systems to develop and maintain the technical, managerial, and financial (TMF) capacity they need to consistently deliver a safe, reliable, and abundant supply of drinking water to all customers.

The purpose of this document is to demonstrate to the United States Environmental Protection Agency (USEPA) that the state is implementing a capacity development strategy as required in the SDWA Section 1420(c)(1)(C) or risk losing 20 percent of the annual Drinking Water Revolving Fund (DWRF) allotment that the state is otherwise entitled to receive under the SDWA Section 1452.

This report corresponds to the criteria set forth in the USEPA memo "Reporting Criteria for Annual State Capacity Development Program Implementation Reports" dated June 1, 2005. This memo was from Cynthia Dougherty, Director, Office of Ground Water and Drinking Water, and addressed to Drinking Water Program (DWP) Managers, Regions I-X. The report is due to the USEPA within 90 days of the end of the reporting period. Michigan's reporting period is the state Fiscal Year (FY) that ends on September 30, so this report is due by December 30 of each year. Elements discussed in this report are:

- New Systems
    - Identify legal authority
    - Identify control points
    - List of new systems
- Existing Systems
    - Identify tools and activities
    - Identify systems
    - Identify needs and provide assistance
    - Review implementation and address findings
    - Modify strategy

2.0 New Systems

2.1 Identify Legal Authority

The legal authority remained unchanged during the reporting period. The CDP is implemented by the Water Bureau (WB) of the Michigan Department of Environmental Quality (MDEQ) through amendments to the Safe Drinking Water Act, 1976 PA 399, as amended (Act 399), by application of capacity development polices and guidance documents and through cooperation and/or partnerships with other agencies.

2.2 Identify Control Points

The control points remained unchanged during the reporting period. As outlined in the *New Community Water System Capacity Guideline Document*, dated May 1, 2000, new systems must demonstrate TMF capacity before serving water to the public. The new systems program relies on two control points: construction permits, which are required by law, and final inspection, which is required by policy. Generally, a construction permit is issued based on the technical capacity of the proposed system. For Community Water Systems (CWS), the financial and managerial capacity requirements may still be pending while the system is under construction. Approval to commence operation is not granted until after an acceptable final inspection and approval of a Financial Plan and Operations Plan that address financial and managerial capacity. For nontransient noncommunity water systems (NTNCWS), the WB has delegated the authority to the local health departments (LHD) to review, approve, and issue construction permits. When water systems begin the permit application process, the LHD helps them outline their financial and managerial capacity. Prior to receiving approval to commence operation, the NTNCWS must submit a financial plan and a managerial plan that includes a contingency plan and designation of a certified operator.

2.3 List New Systems

Lists of CWS and NTNCWS that became active during FY 2004 through 2006 are in Appendix A. The lists indicate which systems appeared on a Significant Noncomplier (SNC) list during those years.

3.0 Existing Systems

3.1 Identify Tools and Activities Used

The *Capacity Development Strategy for Existing Public Water Systems*, dated August 1, 2000, lists the programs, tools, and/or activities to help systems acquire and maintain capacity. This section describes each of the major program elements, the target audience, and a discussion of how each helps to achieve and enhance capacity.

3.1.1 DWRF

Target Audience: CWS and nonprofit noncommunity water systems (NCWS), though only municipal CWS are participating, thus far.

The 1996 Amendments to the SDWA authorized the creation of a revolving fund with state match to provide low-interest loans for rehabilitation or enhancements to help water systems comply with the SDWA. This fund is similar to the State Revolving Fund created to assist water pollution control projects. The capacity development provisions of the SDWA are funded through the DWRF allotment.

Michigan's DWRF is coadministered by the MDEQ and the Michigan Municipal Bond Authority (MMBA.) The MDEQ handles all programmatic issues, while the MMBA serves the DWRF Program with its financial expertise. Prior to the creation of the DWRF, project financing for CWS was left largely to the local unit of government or to individuals investing in their own systems. The DWRF provides a source of infrastructure financing. Through FY 2006, the DWRF has committed almost

$418 million in low-interest loans for 141 projects. Some of the loan applicants have received binding commitments but are not yet ready to proceed with the project.

Funds have been committed for a total of 141 projects, and 82 have been completed. The following table summarizes the loan commitments since FY 1998:

DWRF Loan Commitments by FY									
	1998	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
Number of Projects Committed	24	21	7	10	15	21	12	15	15
Commitments of Funds ($M)	53.24	51.38	27.64	26.71	38.15	73.29	60.17	50.44	39.93

Amount of Funds Committed ($M)	$418
Number of Projects Completed To Date	82
Amount of Funds Paid Out For Completed Projects ($M)	$172

Michigan's DWP centers on proper water system construction to prevent jeopardizing the safety of either the source or the finished water. To that end, priority of DWRF projects favors those communities that are participating in a Source Water Protection Program (SWPP), which is discussed in section 3.1.3.

3.1.2 Field Staff

Field staff are the primary implementers of the capacity development program. The CWS are served by WB staff in 8 district offices and the NCWS are served by staff from 44 LHD under contract with the MDEQ. A primary objective of the field staff in the district offices and the LHD is to provide excellent customer service from the construction permit application for new infrastructure through the regulatory oversight process and the continual assessment and assistance process for the duration of a system's operation. Field staff achieve that objective through assistance to systems during site visits, at meetings and conferences, during training events, and consultation by telephone and e-mail.

System operators and managers have many opportunities to interact with field staff outside the capacity assessment arena. Field staff attend, participate, and present at periodic regional operator meetings to discuss upcoming regulations, regional issues, and to network with operators and managers. Field staff also serve as instructors at operator training workshops, serve as subject matter experts for operator certification examinations, and present training at professional meetings. When systems begin to develop their project plan to apply for a DWRF loan, field staff consult with the system and works with its consulting engineer to ensure the project plan is eligible for funding.

3.1.2.1 Assessing Capacity

Capacity of existing systems is assessed with routine evaluations, also known as sanitary surveys, which rate systems satisfactory, marginal, or deficient. District engineers detail their findings and recommendations in a letter to the system. Evaluation letters may include a list of milestones with dates by which the items are expected to be addressed. Options for capacity assistance may also be offered. These evaluation letters help systems understand the severity of the deficiencies and importance of acting on the recommendations.

The following table shows the number and percentage of evaluations, surveillance visits, and construction permits in recent years in the CWS program. The table does not include activities in the Manufactured Housing Community (MHC) Program:

System Evaluations, Visits, and Construction Permits												
	FY 2001		**FY 2002**		**FY 2003**		**FY 2004**		**FY 2005**		**FY 2006**	
Evaluations	401		488		294		353		499		409	
Conducted	#	%	#	%	#	%	#	%	#	%	#	%
Satisfactory	311	78	384	78	219	75	278	79	398	76	308	75
Marginal	45	11	57	12	45	15	53	15	49	9	38	9
Deficient	23	6	30	6	22	8	19	5	14	2	25	6
Not Rated	22	6	16	3	8	3	3	1	37	12	38	9
Other			1	0								
Visits	1,301		1,360		1,117		1,243		1,468		1,455	
Construction Permits Received	1,844		1,711		1,890		1,962		1,980		1,766	
Construction Permits Issued	1,814		1,718		1,779		1,848		1,855		1,656	
Permits Issued Within 10 Business Days*	1,367		1,361		1,358		1,258		1,297		1,057	
% Issued w/in 10 Business Days	75		79		76		68		70		64	

* Considered to be less than 15 calendar days

In addition to scheduled surveillance visits and sanitary surveys, field staff visit water systems to investigate problems discovered during routine monitoring. A district engineer's investigation of total coliform positive events in FY 2006 uncovered problems with buried pressure tanks in MHC Hillside Acres in Hillsdale County, and Home Crest Villa in Allegan County, and in the city of Concord in Jackson County. The engineer directed that faulty pressure tanks be replaced and installed above-ground to protect against flooding and allow easier maintenance. Moreover, additional piping and appurtenances were required for both the remaining buried tanks and the new above-ground tanks to allow for raw water and finished water sampling, pump to waste provisions, and in the city of Concord, chemical injection equipment. As a result, these systems are better able to monitor water quality, respond to emergency events, and perform routine maintenance on their equipment. The city of Concord is currently sharing a certified operator with the nearby city of Homer while Concord's operator works toward earning certification for limited treatment systems. As a side note, design standards no longer allow installation of below-ground pressure tanks and field staff strongly encourage systems to bring any existing tanks above ground as soon as possible.

3.1.2.2 Field Staff Consulting

Assistance or consultation has been the preferred method to prevent systems from falling into noncompliance. Sometimes consulting takes the form of improving **communication** among systems or between owners and operators to prevent noncompliance. Two examples include the following:

- Communication between the contractor, owner, and operator was strained during startup of a reverse osmosis treatment system to remove radium in a small

privately-owned system. Field staff have spent time educating the owner about the system so the owner will put more trust in the certified operator.

- The city of Holland on the Lake Michigan shore sells water to nearby Laketown Township, but metered information provided by the city showed the contractual capacity was exceeded. Staff met with the city and the township to discuss the need to negotiate a new contract so both parties are protected and the township is sure to have a continuous reliable source of water to meet increasing demands.

> Communities signed ACO with the MDEQ to give them up to 32 months of additional time to comply. Arsenic removal treatment plants (Sandusky, Carsonville and Caro [in Sanilac and Tuscola counties in the Thumb area]) have come on line and are operating very well. Others are designing arsenic removal plants or drilling wells that they hope will be in compliance.
>
> *- a district engineer*

Field staff also partner with other technical assistance providers to consult with systems. In January, field staff and a member of the Michigan Section American Water Works Association (AWWA) Mentoring Committee met with the city of Clio in Genesee County to review recordkeeping and discuss capital improvements. This consultation and other visits have resulted in a significant upgrade to the city's records for hydrants, valves, and services.

Technical consulting to systems exceeding the arsenic standard has been a driving issue this year. Prior to January 23, 2006, the compliance date of the revised arsenic standard, the MDEQ suspected about 188 CWS and 333 NTNCWS might exceed the standard based on past monitoring results. Several of those systems met the standard by the compliance date and no further action was necessary. Other systems needed to find a solution and many of those systems entered into Administrative Consent Orders (ACO) with the MDEQ, which included a schedule to comply with the revised arsenic standard. Most of the solutions involve hooking up to an existing public water supply meeting the standard, providing bottled water (in certain NTNCWS), drilling new wells, or installing arsenic treatment systems. Field staff have been involved in all of these scenarios. Examples include the following:

- Field staff continue to help the village of Pentwater on the Lake Michigan shore to comply with the arsenic standard using the new treatment technology funded and installed through the USEPA Arsenic Demonstration Project.

- Field staff reviewed the proposal to conduct a pilot plant study to remove arsenic in the village of Mattawan in Van Buren County, which was completed in 2005. Staff met with the village and their consulting engineer in the spring and recently received the permit application with plans and specifications for an iron removal system. The city had raised rates to help pay for the $2.52 million construction, but that will also remove arsenic and lower those rates somewhat thanks to a $500,000 Community Development Block Grant that will help defray construction costs.

Assistance with compliance also extended to a new system. Saddle Ridge Condominium Community, in Kent County, exceeded the copper action level in initial monitoring. Field staff provided training for the operator and expects the system will respond correctly to the exceedance, return to compliance quickly, and meet the copper action level in the future.

Helping systems to comply with monitoring and reporting requirements is an ongoing effort throughout each year. The following are some examples of this type of assistance:

- Develop and distribute monitoring schedules each year for every CWS and NCWS based on each system's applicable monitoring waivers and schedule in the standard monitoring framework. Follow up with reminder letters or postcards and reminder telephone calls as resources allow.

- Advise owners, managers, and operators of new privately-owned systems or new owners of existing systems about the requirements of a water system.

- Distribute reminder letters of pending monitoring requirements. Inform water systems of Consumer Confidence Reports (CCR) requirements and review draft reports.

- Assistance in Monthly Operation Reports (MOR) completion.

- Provide water systems with USEPA or MDEQ developed tools, such as guidance documents, operator training compact disks, MOR templates, sampling site plans, information on applying for DWRF loans, sample water use ordinances, or valve and hydrant maintenance database template.

To increase **reliability**, gain efficiencies, and improve water quality, field staff serve as consultants to regionalize and consolidate. Specific efforts this year include the following:

- In the Upper Peninsula (UP), the city of Crystal Falls and adjacent Crystal Falls Township recently reached an agreement to participate in a joint water supply, making the township a customer of the city. Over the last two years, field staff met with local community officials and their engineers to facilitate the regional water supply concept resulting in a regional water service agreement.

- In another area of the UP, staff met separately with officials representing the village of Newberry in Luce County, the Newberry Correctional Facility, and McMillan Township, an area not currently served by public water. Discussions focused on the merits of a regional water supply to take advantage of Pentland Township's abundant source of high quality water in their new well field to replace the village of Newberry's poor aesthetic water quality source.

- The village of Wolverine Lake Heights in Oakland County exceeded the revised arsenic standard and entered into an ACO with the MDEQ to return to compliance. The MDEQ included a stipulation in the compliance schedule that the village negotiate a customer supply agreement with the Detroit regional water system or install arsenic treatment, which the village could ill afford. Subsequently, the Detroit system refused to serve the village due to lack of sufficient capacity. It might have ended there leaving the village no option but to finance treatment. However, field staff worked with Detroit and determined that Detroit has sufficient capacity to supply an additional customer. The village will be connecting soon.

- Four adjacent apartment complexes were rated or expected to be rated deficient on sanitary surveys due to lack of reliability. The field staff and the Oakland

County Drain Commission, which owns or manages several water systems in the area including these four, saw a win-win situation by consolidating these adjacent systems into one. Consolidation is expected soon.

3.1.2.3 Training For Field Staff

Training and networking opportunities are integrated into activities throughout the year as the need arises to bring field staff up-to-date on rule changes, improve competencies, share expertise, and learn from peers. Well trained staff are better able to assess, consult, evaluate, and guide water systems to enhanced capacity.

- The public water system supervision program is implemented in the NCWS under contract with 44 LHD. The NCWS staff maintain open communications with each of the 44 LHD coordinators and makes contact with these coordinators quarterly; however, contact is usually on a more frequent basis. The NCWS staff also conduct a formal quarterly review and an annual evaluation of each of the LHD's work in obtaining and maintaining water system compliance. Training of LHD staff are conducted extensively during these reviews. The NCWS staff are involved in annual, or as needed, meetings with LHD staff to inform, explain, and discuss new and updated program issues and procedures. Special “train the trainer” sessions are held by NCWS staff to provide local staff certified drinking water operator presentations, and the NCWS staff are always willing to be an expert speaker at groundwater or other environmental health conferences to which local staff attend.

- To bring staff up-to-date on the new Long Term 2 Enhanced Surface Water Treatment Rule (LT2) and the Stage 2 Disinfectants and Disinfection Byproducts Rule (Stage 2) all-day training was conducted in March 2006 by the central office staff.

- Each year the capacity development coordinator participates in the annual Capacity Development conference hosted by the USEPA. This year Michigan attendees included both the capacity development coordinator and the staff member that evaluates the financial capacity of new and existing CWS. At the conference, the coordinator facilitated a discussion session on capacity development successes across the states and the financial expert gave a summary of Michigan's financial assessment program of existing systems.

- This year the MDEQ worked to improve sanitary survey frequency and quality. Experienced staff conducted an all-day training session to familiarize new staff and reacquaint veteran staff with the fundamentals of a sanitary survey of a complete treatment plant. Attendees included MDEQ staff that regulate surface water treatment plants as well as those that evaluate small groundwater systems.

- New CWS staff receive a manual of information pertinent to their position and are briefed on many of the items in the manual. The NCWS staff are currently in the process of developing a “Public Drinking Water Health Training Series” for LHD staff.

3.1.2.4 Training, Meetings and Conferences with Systems

Field staff host or attend meetings, conferences, and training sessions throughout the year with and for water system personnel. Ongoing activities include hosting USEPA and AWWA sponsored Web casts that take advantage of the inexpensive, but informative training venue, serving as instructors at a several operator training courses at two state training sites throughout the year, and speaking at the annual meeting of the Michigan Section AWWA and each of the four regional conferences. Continuing education credits are offered to certified operators as an incentive to attend. Listed below are examples of other events held in FY 2006

- MDEQ central office staff spoke to the Detroit system and their customer systems on requirements of the LT2 and Stage 2 rules.

- Field staff in the Southeast Michigan district office host the St. Clair River Operator meeting twice each year for systems that use the river as their source of drinking water. The most recent meeting focused on the river monitoring and early detection system of spills. Guest speakers included the Emergency Management Coordinator of St. Clair County and the Director of Environmental Health at the Macomb County Health Department. The Port Huron Times reported on the early detection system, "The hope is that communities, when linked by the Intranet-based notification system, will better handle spills and prevent potentially harmful substances from infiltrating drinking water systems." Field staff used the meeting to also review requirements of the LT2 and Stage 2 rules.

- To help systems understand and comply with the LT2 rule, staff held training in April to discuss the rule and the required cryptosporidium monitoring. Water plant personnel from systems affected by early implementation of the rule attended.

- The Michigan Section AWWA Research and Technical Practices Committee hosted an all-day continuing education training on both rules and included presentations by MDEQ central office staff. The targeted audience included operators, utility managers, design engineers, and consultants.

- Staff attended one of the monthly meetings organized by the West Michigan Surface Water Treatment Plant Operators to discuss various water related topics.

3.1.3 Source Protection

Systems are continuing to taking steps to protect their drinking water sources. The SDWA established and funded source water assessment activities, but did not provide funds to implement SWPP for surface water sources. Federal funding for Wellhead Protection Programs (WHPP) is available through the DWRF. To further protect drinking water aquifers from contamination, Michigan implemented the Abandoned Well Management (AWM) Grant Program to help communities locate and properly plug abandoned private and public wells located in a wellhead protection area. This program is in its final round of funding in 2006.

3.1.3.1 Source Water Assessments to Protection

Target audience: CWS and NCWS

The requirement of the SDWA for all CWS and NCWS drinking water sources to be assessed initiated the completion of nearly 18,000 source water assessments in Michigan. Potential sources of contamination were inventoried, and susceptibility to contamination was determined. The susceptibility of a groundwater source was based on a quantitative evaluation of geologic sensitivity, well construction details, water chemistry, and contamination sources. The surface water assessments evaluated water intake sensitivity and calculated susceptibility to potential sources of contamination.

This source water assessment data has been used to prioritize communities based on their overall susceptibility rating for intensive outreach efforts. This includes site visits and a self-assessment educational training tool for source water protection activities. This tool is used to identify activities and behaviors of operators that may increase the risk of a water source contamination. The goal of the outreach tool is to have the operator identify actions to reduce the risk and set target dates to complete the actions. This outreach effort has established a strong partnership with the local health departments and has been well received by both sanitarians and noncommunity well owners.

Three systems have completed a Surface Water Intake Protection Program (SWIPP) and four others are in the initial stages of writing a complete plan. Completed programs include Ira Township in St. Clair County, Alpena in the northern lower peninsula, and Adrian in Lenawee County. These three systems are working with other organizations in their areas to integrate programs and implement new source water protection activities. Thus far, the communities with completed SWIPP serve relatively small populations. A matching grant program equivalent to that used in the WHPP is being considered, which may stimulate activities in a SWIPP by larger populated municipalities.

Quarterly newsletters continue to be sent to all community water sources to encourage source water protection efforts and aid in outreach activities. Communities implementing or in the initial phases of the development of their SWIPP are also aided with the quarterly newsletter and on-site visits by staff. Joint quarterly meetings between the WB and Michigan Rural Water Association (MRWA) are continuing to be held to assess progress and discuss future activities.

3.1.3.2 WHPP

Target Audience: Municipal CWS

The WHPP assists local communities utilizing groundwater for their municipal drinking water systems in protecting their water source. A WHPP minimizes the potential for contamination by identifying and protecting the area that contributes water to municipal water supply wells and avoids costly groundwater cleanups. Of the 455 municipal systems in Michigan using groundwater as their water supply, 293 are involved in some aspect of wellhead protection such as performing a delineation, inventorying the potential threats, and developing contingency plans. Of those 293 systems, 166 have completed all the steps and have an approved WHPP. As a result, 88 percent of the population of the state served by municipal systems using groundwater is in communities taking action to protect their groundwater sources.

3.1.3.3 Abandoned Well Management (AWM) Program

Target Audience: Municipal CWS directly – Private well owners

The AWM program consists of five areas of concentration: Clean Michigan Initiative (CMI) cost-share grants through DEQ, Farm-a-syst cost-share grants through the Michigan Department of Agriculture (MDA), LHD basic environmental health services contracts, MDEQ public education and outreach activities, and MDEQ's direct field enforcement. Each area of concentration contributes uniquely to the overall management effort. It is estimated that there are over a million unplugged abandoned wells in Michigan, quite likely more than in any other state.

Sixty-five communities participated in three rounds of CMI-AWM Grant awards. The awards paid for locating and plugging abandoned wells inside municipal water supply wellhead protection areas. Grantees participating in the first round that began in 2000 have recently completed their plugging work. Grantees participating in the second round, which was awarded in 2004, are in their plugging phase. Most of them have completed their projects. Grantees participating in the third round of grants, issued in 2005, are presently conducting their abandoned well search. They are scheduled to begin the plugging effort during 2007. Over 1000 abandoned wells are expected to be plugged in wellhead protection areas through this grant program. This grant program is scheduled to end in 2007.

The Farm-a-syst cost-share grants program conducted by MDA pays for plugging abandoned wells on farms. Up to 90 percent of the plugging costs can be obtained by farm owners to seal their old abandoned wells. The program is administered by county conservation district offices through a contract with MDA. This program has plugged over 6,000 abandoned wells on farms, to date.

The LHD basic environmental health services contract with the MDEQ (which is a 50:50 state-local support program) includes an abandoned well management component. Where LHD issue new well construction permits, they require plugging of the existing, abandoned well. Since 2000, through this program, over 60,000 abandoned wells have been plugged. Presently, the MDEQ is trying to formulate a plugging strategy for wells that are abandoned at the time homes, businesses, or other structures are connected to municipal water service.

The WHPP and AWM Program both provide public education and training opportunities for community water utility managers, well drilling contractors, other state agencies, and the public. The goal of this program component is to elevate the level of public awareness concerning the health and environmental hazards posed by unplugged abandoned wells.

Enforcement of abandoned well plugging regulations is conducted by the WB, the MDEQ Office of Criminal Investigations, and through cooperative actions initiated by LHD. The MDEQ estimates that taking the necessary corrective actions at a site of an illegally buried abandoned well can cost the property owner or violator approximately 10 times the cost to have a registered well drilling contractor plug it correctly in the first place.

3.1.3.3 Michigan Groundwater Inventory and Mapping Project

Target Audience: CWS, NCWS, and other interested parties

> "The information this project has provided allows us to have a greater understanding of the nature of Michigan's groundwater resources. Now that we have this information available to us, we must take appropriate action to ensure that these resources are protected."
> *- MDEQ Director Steven E. Chester*

The Michigan Groundwater Inventory and Mapping Project was developed to inventory and map Michigan's groundwater resources. The MDEQ partnered with the United States Geological Survey and Michigan State University to produce the most comprehensive compiling of groundwater data in Michigan. The project fulfills the mandates of the Groundwater Withdrawal Certification, 2003 PA148, enacted in response to growing concerns about groundwater use conflicts. "The information this project has provided allows us to have a greater understanding of the nature of Michigan's groundwater resources," said MDEQ Director Steven E. Chester. "Now that we have this information available to us, we must take appropriate action to ensure that these resources are protected."

While the maps are available in paper copy, a highly interactive digital format is available on the internet as well. These products, derived from existing data, show groundwater aquifers and features, users of large quantities of groundwater, and other valuable groundwater information to help develop and manage the state's groundwater resources.

3.1.4 Operator Training and Certification

Target Audience: CWS, NTNCWS, and transient NCWS (TNCWS) that use treatment

Each CWS, NTNCWS, and TNCWS must be under the supervision of a certified operator, according to Amendments to Act 399 and larger CWS must also have a certified backup operator. These operators must obtain continuing education credits to maintain their certification. As a result, more operators are requesting and receiving more training opportunities. New training courses are developed based on operator feedback, field staff input, and in response to new regulations with which water systems must comply.

3.1.4.1 Operator Training and Certification Unit (OTCU)

Target Audience: CWS and NCWS

The OTCU of the MDEQ, Environmental Sciences and Services Division, provides over 30 training courses each year. Many of these sessions are taught by WB field staff under an agreement between the MDEQ and the Michigan Section AWWA as discussed later in Section 3.3. The OTCU certifies nearly 80 other organizations and training providers that offer other opportunities for continuing education credits including online courses. Certified operators are required to be available at over 1400 CWS, 1532 NTNCWS and 55 TNCWS. Supplies known to be without a certified operator in 2006 totaled only 7 CWS, 49 NTNCWS, and 3 TNCWS. However, due to missing information in the database, there may be more NCWS without certified operators. Staff work informally to return these systems to compliance. Major program activities recently include:

- Continued the Expense Reimbursement Grant Program with training activity offered by MDEQ staff and each of the three training providers MRWA, AWWA Online Institute, and a private consultant.

- Subject Matter Experts (SME) met several times to validate exam item banks. The SME include water system operators holding licenses of the highest level in their category.

- Developed exams for the higher level classifications of distribution system operators using questions validated by SME.

- Offered the first exams, using questions validated by the SME, for the higher level classifications of complete treatment and limited treatment operators.

- Fully implemented the Web-based application for certified operators to view pertinent information regarding their certifications. Water system supervisors can better manage their employees by having access to this information.

- Streamlined the operator certification renewal process using the OTCU Web site.

- Increased the number of exams per year from two to four for the lowest level operators.

3.1.4.2 Small CWS and NCWS

A restricted certification option is available for existing operators of certain small systems to continue to operate at their current location if they receive additional training. Approximately 90 percent of the NTNCWS met the certified operator requirements by the effective date of the requirement. However, the rapid turnover rate typically experienced at these small systems puts the system out of compliance with the certified operator requirements until a replacement operator is employed.

Eight continuing education modules have been developed for operators holding the lowest level certification. Twenty one LHD are contracting with the WB to provide continuing education for these operators.

3.1.4.3 MHC

For the past several years, the staff of the WB responsible for oversight of the CWS serving MHC have provided training targeted for operators of these systems, many of which hold restricted licenses. This year staff opened the training to other small systems such as apartment complexes and condominium communities. The audience is not only operators, but managers and owners of these CWS. Many of these operators are employed by more than one system or may also work at NTNCWS, so the training is improving the operation and maintenance of many more systems than the number of operators present for this training. The training is slightly different each year to keep the operators interested and engaged. In 2006, 163 operators and owners attended training offered at five sites across the state that covered:

- Rules – Stage 2, Lead and Copper, Total Coliform, Arsenic

- Aesthetic Issues, Specifically Iron and Hydrogen Sulfide

- Disaster Preparedness, Katrina Case Study
- Grouting and Abandoned Well Plugging Requirements
- CCR Preparation
- Permit Preparation

In the past, the MHC operators and owners have interacted with WB staff that specialize in the unique aspects of these communities including wastewater and drainage issues. Due to recent budget cuts, the MDEQ eliminated all aspects of the manufactured housing program with the exception of oversight of drinking water systems and permitted wastewater facilities. For the past year, compliance monitoring of the drinking water systems was maintained by staff in the central office. As of January 1, 2007, those staff members will be reassigned and their duties transferred to the field offices. The WB recognizes the importance of continuing efforts to maintain compliance with drinking water regulations at small water systems, such as those serving MHC, but there will be a period of transition as staff are reassigned and the responsibility for MHC is moved to the field offices.

In the meantime, the MHC have improved infrastructure. These communities are also moving forward to find ways to comply with the revised arsenic standard that became effective in 2006. Fifty-two of these MHC were among the CWS that entered into ACO with a schedule mutually agreed upon with the MDEQ to work toward various arsenic options including new wells, connecting to municipal water, or financing arsenic treatment. One MHC has connected to municipal water that meets the arsenic standard. Several others are in the process of attaining municipal approval to connect to their system. At least nine more of these communities have drilled new wells to attempt to meet the new arsenic maximum contaminant level (MCL.) Many of the other MHC are in the process of receiving approval from the MDEQ to install their arsenic treatment system.

3.1.5 Financial Assessments

Outcomes Since 2003

57 municipally-owned CWS have requested or been nominated by district staff to undergo an assessment.

34 systems have received their FAP and have the tools to implement their plan.

Target Audience: CWS serving fewer than 10,000 people that are either municipally owned or subject to association bylaws

To help existing CWS improve financial capacity, the WB has partnered with another MDEQ division to conduct financial assessments of systems that serve a population of less than 10,000, received a less than satisfactory rating in a recent evaluation, and are not making satisfactory progress toward correcting the deficiencies due in some part to financial difficulties. The criteria have been expanded to systems that *could* benefit from a financial assessment. As a result, several systems that are currently in compliance, but are concerned about future challenges such as complying with new rules, are making progress toward that end by improving their financial capacity.

A financial expert in the DWRF Program conducts the assessment of the community's existing financial health and develops a Financial Action Plan (FAP). The assessment is a review of financial documents and an on-site meeting with system representatives. A FAP is a tailor-made comprehensive plan to strengthen the system's financial situation

based on the assessment. Short- and long-range goals are identified in the FAP followed by a step-by-step process to reach the goals. Useful tools to help complete the steps are included with the FAP, such as a sample water use and rate ordinance and a service agreement checklist. The assessment is not designed to provide funding; however, financing options are discussed at the on-site meeting. Further information on obtaining funding is provided with the useful tools, when applicable, such as forms to help apply to the DWRF. The system is expected to carry out the FAP, and the WB is available to assist when requested. The FAP is intended also to be a guide for the field staff. If a system falls into noncompliance with Act 399 partly due to failure to carry out the FAP, then the field staff may choose to include the FAP tasks and timeframes into an ACO. An outline of a typical assessment report is included in the Appendix.

The city of Beaverton in Gladwin County was highlighted in last years report and they are continuing to enhance financial capacity as evidenced by the advancing of their capital improvements projects. To summarize, the city had a history of under funding their water system operation, and in 1999, their wells failed putting them in a tough financial position. As recently as 2001, their system was still deficient due to insufficient well capacity, old undersized mains, and a lack of maintenance. The city underwent a financial assessment and received their FAP in 2004. As a result, the city formed a committee to establish equitable water rates, implemented the rates, and made some improvements. In 2005, the city applied for funding through Rural Development for water main replacement, looping water mains, hydrant replacement, and storage tank rehabilitation. They were approved for a loan only with no grant provision, making the project unaffordable. Fortunately, in 2006 the city received a Community Development Block Grant through the Michigan Economic Development Corporation, which brought the loan amount down to an affordable amount. Currently the city is finalizing the funding, raising rates to repay the loan, and proceeding with the design.

> [T]his is a great story of how the process works from beginning to end. Also, it shows that you can't fix a problem overnight.
> *-a district engineer*

Applying for a DWRF loan can be a daunting task for small cities and villages. However, field staff report that some communities that underwent a financial assessment may have become motivated to apply for DWRF money. The financial assessment may have helped put into perspective the need to move forward and helped these communities move incrementally toward gathering the information and documents needed to apply for a loan. Project plans submitted in 2006 from systems that underwent a financial assessment include the following communities and the purpose of the loan:

- Village of Dryden in Lapeer County – provide firm capacity with wells meeting the revised arsenic standard, provide a redundant supply from the wells to the distribution system, and provide for backwash disposal.

- Forsyth Township in Marquette County - replace old mains and provide a redundant feed to the distribution system.

- Iron River Township in Iron County - install a second well in one of three interconnected pressure districts to provide reliable capacity and replace transmission mains that currently cannot overcome head loss during major repairs.

- Village of Fowler in Clinton County - meet the arsenic standard with a new water treatment plant, loop distribution lines, provide a gravity backwash sewer, and add a redundant connection from the wells to the distribution system.

- Village of Ubly in Huron County - install a new well to meet the revised arsenic standard, install customer meters, and provide waste handling at the water treatment plant.

A unique financial assessment conducted in 2006 involved the former K.I. Sawyer Air Force Base (Sawyer), which was turned over to the county of Marquette in late 2004. Sawyer was built to supply a much larger customer base than it now serves. However, the design of the water system prohibits the current owners from eliminating or discontinuing use of certain components in order to reduce operational expenses. The financial assessment provided an opportunity for the three governmental entities impacted by Sawyer to discuss the legal, institutional, and managerial issues to develop a working relationship between all parties, such as creating an authority.

3.1.6 Technical Assistance Contracts

Target Audience: CWS and NCWS serving 10,000 or fewer people

Funds from the DWRF have been set aside for technical assistance to the 12,000 CWS and NCWS serving 10,000 or fewer people. Two new contracts were awarded, each for two years.

The first contract assessed critical contaminants in small water systems. This included on-site visits to systems with elevated arsenic levels and pilot projects at selected systems to develop arsenic reduction strategies and tools. On-site visits were conducted at small systems to collect and analyze samples for critical chemical contaminants. The contract also included training sessions for LHD, NCWS, and others, using training modules already developed concerning monitoring, treatment, evaluations, source water assessments, cross connections, contingency planning, and groundwater wells. Approximately 80 percent of the allocated funds have been paid. The remainder is to be included in a contract extension for FY07 to continue the arsenic work and training.

The second contract was developed to test and deliver training modules for CWS. One set of training modules addresses priority issues for operators, such as regulations, reporting, and recordkeeping; water sources and treatment; water quality monitoring; operation and maintenance; and contingency planning and emergency procedures. A second set focuses on topics for small system managers and financial officials, such as managing and financing small systems; system assessment, objectives, and options; establishing a budget; basics of rate setting; and legal framework. These modules have been completed, pilot tested, and are available for use. The contract has been completed with all allocated funds disbursed by September 30, 2006.

3.1.7 Security

Target Audience: CWS and NCWS serving 50,000 or fewer people

The USEPA water security grants are funding two contracts as of September 14, 2006, for multi-year efforts to improve water sector security and emergency response.

One contract involves holding tabletop exercises and train-the-trainer conferences. The second contract involves follow-up of public water system vulnerability assessments (VA) and capital improvement plans (CIP).

Under the Bioterrorism Act of 2002, water systems serving populations greater than 3,300 developed an Emergency Response Plan (ERP). Under the Homeland Security Presidential Directive No. 8, departments of public works are now considered part of the community first responders' network. To comply with these requirements, the tabletop exercises will help water and wastewater systems to develop and implement a successful ERP incorporating malevolent acts of terrorism into local responsiveness planning and training. The contract consists of two elements: first, one-day conferences around the state at 10 locations yet to be determined to train utilities to conduct their own tabletop exercises; and second, conduct tabletop exercises at 20 public water systems and 10 wastewater systems prioritized by population where the MDEQ has not already conducted exercises.

The second contract involves conducting on-site reviews of VA at systems serving greater than 3,300. This work will include a review of CIP, Reliability Studies, Master Plans, etc., to determine if the security needs identified in the VA are being implemented or incorporated into future plans. Under this contract, the security related capital improvements information will be forwarded to the appropriate MDEQ, WB field staff as it is generated.

The WB has developed a Threat Advisory Notification System (TANS) for water and wastewater systems. The WB is continuing to gather and update e-mail addresses. An index of TANS notices that have been issued is available on the MDEQ Internet Web site, http://www.michigan.gov/deq and includes changes in threat levels and security information and guidance.

3.1.8 Technical Assistance Providers

Target Audience: CWS and NCWS

The efforts of other organizations to enhance system capacity are an integral aspect of the CDP. An index of technical assistance providers was developed a few years ago and describes the services of each technical assistance provider agency. The index is a "yellow pages" of water systems, community leaders, and MDEQ staff that is periodically updated and published in the *Michigan Water Works News*. Three provider organizations deserve highlighting due to their efforts to enhance capacity:

- MRWA
- Rural Community Assistance Program (RCAP)
- Rural Utilities Service (RUS)

In 2006, the MRWA provided hands-on training to over 1,200 individuals representing over 350 communities. Some of these trainings include: Conference for Municipal Utilities Management Personnel, Hands On Rate Study Workshop, and Workplace Safety Conference.

Under contract with the MDEQ, the MRWA conducted training for managers on asset management, budgeting, rate making, legal documents, and project management. Operator training covered regulations, reporting and recordkeeping, sources and treatment, monitoring, operation and maintenance, and contingency planning and emergency procedures.

Technicians from the MRWA also conducted on-site vulnerability assessments in 230 water systems serving few than 3,300 people. The MRWA is currently involved in the planning and preparation of emergency response and mutual aid plans for all cities, villages, and townships in Oakland County on behalf of the county. The MRWA is an approved provider of Expense Reimbursement Grant training through the MDEQ. This allows licensed water operators from communities serving fewer than 3,300 people to attend MRWA training free of charge.

The RCAP provides free technical assistance to rural communities to help with the development and management of affordable water and waste disposal systems. Eligibility for RCAP assistance is based on population and median household income. Service is provided to communities with low to moderate median household incomes serving fewer than 10,000 people, with priority going to those serving fewer than 3,300. Providers work with local community officials, community leaders and system operators to assess capacity needs, review funding options, rate reviews, perform environmental reviews, consultant selection, and prepare the application for funding of infrastructure capacity development projects.

Local officials are taking advantage of RCAP services to achieve financial solvency through rate studies as well as help with project selection, compliance with existing and upcoming SDWA rule requirements, capital improvements planning, financing option reviews, conducting vulnerability assessments and preparing emergency response planning. In FY 2006 RCAP assisted 27 systems in water and wastewater issues including the following specific to water system capacity development:

- Improved arsenic treatment/removal abilities to meet revised arsenic standard in Bancroft, Cass City, Mayville, Minden City, Reading and Cambria Road Apartments.

- Developed vulnerability assessments and emergency response plans in Cass City, Dansville, Mayville, and Waldron.

- Conducted rate reviews with Camden, Reading, Sand Lake, and Waldron

In early FY 2007, RCAP will add Technical Assistance Providers to work in the Northern Lower Peninsula and the UP.

The RCAP is a national nonprofit program funded at the national level by grant funds from the USEPA, United States Department of Health and Human Services, and United States Department of Agriculture's Rural Development/RUS. Michigan's RCAP program is administered by the Michigan Community Action Agency Association.

The RUS provides loans, grants, and loan guarantees to build, reconstruct, or rehabilitate water, sewer, solid waste, and storm sewer systems in rural communities serving 10,000 or fewer people with priority to low income communities; those with MDEQ violations; systems with leverage from other funding sources; systems extending

existing systems; and entities working together. The RUS provides technical assistance to applicants regarding environmental issues, engineering, construction, and federal financing. Loans are monitored until they are paid in full. Small communities serving populations under 5,000 took advantage of RUS funding in the past three fiscal years for drinking water projects: 17 projects totaling $18,444,000 in FY 2006, 10 projects totaling $19,529,000 in FY 2005, and 14 projects totally $16,498,000 in FY 2004.

The ratio of grants to loans is weighted more heavily on loans and less on grants. The RUS goal remains to help the neediest low-income communities, targeting those at 60 percent of the state median household income of $27,461; however, with the minimal grant funds, communities will need to pay more. The RUS strives to increase leveraging of funds with other agency funds and private credit. All community assets in an applicant's general and enterprise funds are considered to determine what community funds can be available to the project. To ensure funding goes to communities that protect their source and manage their water system, applicants must have a WHPP, install water meters, and fund short-lived asset and replacement accounts. Security is receiving continued focus. Applicants must complete VA and ERP before closing on loans, including systems serving fewer than 3,300 people. During FY 2005, RUS with the help of the MRWA, made a concerted effort to ensure all 208 borrowers developed VA and ERP.

The RUS also administers the Technical Assistance and Training Grant Program that funds Internal Revenue Service tax exempt private nonprofit organizations that have the proven ability, background, experience, legal authority, and capacity to provide technical assistance and/or training on a regional basis. Successful applicants are typically multijurisdictional groups, such as regional planning commissions, the National Rural Water Association, and the RCAP.

3.1.9 Enforcement

Target Audience: CWS and NCWS

Evaluations and compliance information becomes the basis for enforcement. When systems fail to return to compliance, escalated enforcement, including ACO and MDEQ orders, can be initiated. Before escalated enforcement is used, many systems are encouraged to return to compliance when they are assessed fines for violations. The following table shows the number of fines levied against CWS since FY 2001.

	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
Number of Fines Initiated	58	67	51	35	46	54
Number of Initiated Fines for Failure to Deliver a CCR	0	10	3	10	21	9
Number of Initiated Fines for Failure to Submit an MOR	0	12	2	2	2	2

- Michigan's administrative fines policy was updated in 2001 to include timely submittals of MOR and CCR. The increase from 58 fines initiated in FY 2001 to 67 in FY 2002 was due primarily to fines for failure to submit an MOR or a CCR.

- The increase in the number of fines in FY 2006 is directly attributed to noncompliance with the revised arsenic MCL. Failure to increase arsenic monitoring to quarterly after the effective date of the revised arsenic standard, failure to issue a public notice for an arsenic monitoring violation, and failure to

issue a public notice or repeat public notice after exceeding the revised arsenic standard, all resulted in fines being assessed.

- The increase in fines for failure to deliver a CCR in FY 2005 is possibly due to staff turnover in two of the eight district offices during the months that water systems were drafting their reports and preparing to deliver them to customers.

When a fine is not applicable or does not prevent further violations, the WB moves to Notice of Violations and ACO. Technical assistance is the preferred method to bring systems back into compliance or prepare systems to meet upcoming requirements especially when options are particularly expensive or when acceptable alternatives are not readily available. As a result, the DWP has needed to refer only four systems to enforcement for MDEQ orders, most of which include construction without a permit.

Meeting the new arsenic standard has been particularly difficult for small water systems that previously did not treat their water. Some water systems did not comply by the 2006 deadline primarily because they did not have the necessary funds. Instead of levying fines on systems that are striving to comply, the WB is working with these systems to bring them into compliance as quickly as possible. Over 100 CWS have entered into ACO with the MDEQ and about 120 NCWS have entered into consent agreements either with their LHD or with the MDEQ, and most are serving bottled water to remove the public health threat as they work toward compliance with the standard.

Public ownership of water systems is preferred over private ownership. However, private ownership is unavoidable in some locations. Privately-owned new CWS are subject to additional requirements to ensure they are able to provide an adequate supply of drinking water. Proposed systems and systems changing ownership must enter into an ACO and agree to the requirements, such as a local government's refusal to accept ownership of the system, establishment of an escrow account available to the WB for immediate repair or maintenance of the system, and approval to transfer ownership to the local unit of government if that becomes feasible. The order ensures private owners understand their responsibilities before establishing the water system.

> [A] benefit I see is that [the privately-owned new system ACO] forces the developers to complete all the requirements before we issue a permit.
> *- a district compliance officer*

An additional tool that the WB uses to encourage systems to maintain a sufficient supply of water is restricting construction permits. Refusing to issue permits for additional infrastructure is not an enforcement tool, but it can be as effective in encouraging water systems to make changes to their system before putting more demands on the capacity of the system. For example, New Buffalo Township in Berrien County near the Indiana border has purchased 500,000 gallons per day under contract with the city of New Buffalo for several years. However, only two years ago a master meter was installed and it was discovered that the township was regularly drawing more water than contracted, resulting in a legal dispute between the city and the township. Meanwhile, the WB issued a construction permit ban on the rapidly expanding township. The ban was eventually lifted and the township is looking toward Michigan City, Indiana, as a source, though that alternative

> We wrote them up in violation of the capacity rule and gave them a permit ban until they come up with an acceptable plan to reduce demand or increase capacity. They entered into another agreement wit the city that expires in 18 months with stiff penalties for exceeding the ½ MGD.
> *- a district engineer*

comes with a $2.6 million price tag to finance the necessary infrastructure to bring the water from Indiana. Due to the permit ban, the township is working toward a long-term solution to meet the demands of their expanding customer base.

3.1.10 Electronic Reporting

Target Audience: CWS primarily, though some elements are designed for laboratories that also service NCWS, and other elements are designed for those entities submitting applications for construction permits

Two new electronic reporting systems are coming online to provide more convenience to water systems and more accurate and complete assessment of capacity.

Michigan has recently implemented an Internet-based reporting system for discharge monitoring reports. The system's success prompted Michigan to expand the project to include electronic Drinking Water Reporting (eDWR.) The eDWR system will provide for online submittal of drinking water laboratory results and treatment plant operational data. Participation is voluntary, and a water system may choose at any time to no longer participate. To date approximately 15 water systems and drinking water laboratories have volunteered to participate in the system pilot. Although the pilot was originally planned for FY 2006, competing priorities have delayed implementation until FY 2007. Laboratory and operational data will be transferred into tracking systems for analysis and compliance determination. The collection of data will allow the WB to query certain parameters to assess capacity on a system-wide basis. Future plans include providing other required reports online.

During FY 2005, Michigan implemented the Michigan Timely Application and Permitting Service (MiTAPS). This system allows customers to prepare and submit various permit applications online, including permit applications for CWS. The purpose of MiTAPS is to provide quick receipt of applications, allow customers to track application status, and to issue electronic copies of approved permits. The drinking water application came online during December 2005. So far, two CWS permit applications have been received online. Currently there are no further plans to expand this project for CWS purposes, although various other environmental permit applications are expected.

3.2 Identify Systems in Need

The strategy used to select and prioritize systems for assistance is outlined in the *Capacity Development Strategy for Existing Public Water Systems*, dated August 1, 2000, and remains unchanged. Briefly, the WB looks at all of the following criteria:

- Compliance information
- Sanitary surveys and results of surveillance visits
- Construction permit bans and correspondence from the WB addressing potential bans
- Operation and maintenance concerns
- Field staff input

Recently staff were asked how they identify systems in need. Responses from field staff reflect the importance of staff input to the overall rating of a system and the identification of systems in need, such as:

- "…through the sanitary surveys and visits. Not just compliance but the whole survey (historical records, maintenance work, future project, budget issues, etc.)"
- "…several ways that include operator and managerial competence, sampling history and results, monitoring and reporting violations, upcoming regulations, bottlenecks in transmission (raw or treated) mains and treatment plants, storage capacity."
- "The findings from a thorough water system evaluation are the basis …. By findings I don't just mean the end water system rating, but rather an analysis of all the input given from the water system to try to determine why existing or potential problems exist."
- Humorous responses are always welcome, "… the squeaky wheel."

The sanitary surveys and surveillance visits are ongoing and, therefore, the frequency with which systems are identified for capacity assistance is continual. Internal policy and program commitments to the USEPA direct WB field staff to conduct sanitary surveys at CWS once per three years. The retail customer supply is excluded from these requirements as issues are expected to be addressed when visiting the parent water supply. This coincides with the requirements of the Interim Enhanced Surface Water Treatment Rule and the Ground Water Rule. The policy requires surveillance visits at the following frequencies:

Type of CWS	Smaller / Less Complex	Larger / More Complex
Wholesale customer supplies	Once per three years • <1,000 population • No treatment* or no storage/repumping facilities • No current history of water quality problems	Once per year • >=1,000 population • With treatment* or storage/repumping facilities • Current history of water quality problems
CWS with no treatment*	Once per three years <50 service connections or fewer than 200 residents	Once per year Other CWS with no treatment*
CWS with treatment*	Twice per year CWS using "Limited Treatment," which includes any of the following: phosphate, chlorine, fluoride, or iron removal treatment	Four times per year CWS using any of the following: • "Complete Treatment" • Surface water source • Required chlorination • Unique treatment such as nitrate or arsenic removal

* Treatment employed for public health protection. Excludes water softeners, iron removal filters, or other aesthetic treatment means.

3.3 Identify Needs and Provide Assistance

Compliance with new and upcoming rules was a major concern this year. The new arsenic standard meant that several systems would need to install treatment, including NCWS that typically employ no treatment. As a result, a licensed engineer was hired in the NCWS program primarily to review plans for arsenic removal as well as nitrate removal and complete treatment. The engineer provides assistance, training, and

consultation to NCWS staff, LHD, and NCWS owners to resolve unique water treatment situations.

In preparation of the arsenic compliance date of January 23, 2006, discussions were held to determine appropriate methods to track the return to compliance. It was decided that compliance schedule activities for CWS could be coded into the Safe Drinking Water Information System (SDWIS) State Enforcement module. It is hoped that as staff become acquainted with and consistently perform this additional data entry task, the MDEQ will be able to better manage the return to compliance of this group of systems.

Early implementation and preparation for compliance with the Stage 2 and the LT2 rules prompted the MDEQ to provide training for both regulatory staff and for systems as discussed in Section 3.1.2.3.

Disseminating information to privately owned small systems is a challenge because owners and operators typically do not join drinking water organizations or subscribe to drinking water publications and, therefore, may not receive information pertaining to drinking water responsibilities. It was decided that the quarterly newsletter cosponsored by the MDEQ and the Michigan Section AWWA might serve as a convenient venue to reach these systems. For several years, the newsletter was distributed to Michigan Section AWWA members and to municipally-owned CWS under a Joint Funding Agreement (JFA). The JFA was up for renewal and it was decided to expand distribution to the approximately 700 privately owned CWS. Thus far, three issues have been distributed to privately owned systems and included articles of specific interest for small systems, such as summarizing the USEPA's new tools for small systems, consumer confidence report information, announcing *Water Works News* distribution to nonmunicipal systems; and asset inventory (series on Asset Management).
Webcast training is becoming more popular as a convenient and inexpensive way to receive training. The USEPA and the AWWA are producing and broadcasting throughout the year and the MDEQ is taking advantage of the venue. The Operator Certification Advisory Board met in 2006 and determined that continuing education credits (CEC) may be awarded to certified operators for drinking water related USEPA and AWWA sponsored Webcasts provided attendance is documented and certified by a supervisor or MDEQ staff person or appropriate person. As a result of offering the CEC as an incentive to attend, 21 sessions were attended by a total of 241 certified operators. The quality of the Webcasts has ranged from excellent to poor, and the WB will continue to host these if the quality trends toward excellent.

3.4 Review Implementation and Address Findings

System evaluations (sanitary surveys) are the primary tool to evaluate capacity and identify needs for specific systems. A longstanding MDEQ policy dictates evaluation frequencies for all types of CWS, as discussed in Section 3.2. The Annual Resource Deployment Plan review of commitments to the USEPA prompted the MDEQ to query performance against those frequencies. The MDEQ felt that a greater effort was needed to complete evaluations, particularly sanitary surveys of Subpart H systems. To that end, the CWS field staff developed performance plans to achieve the desired frequencies of sanitary surveys of Subpart H systems in each district office. Some veteran staff are mentoring and working with newer staff to complete these sanitary surveys.

Small system manager and financial officials training was developed and offered at several locations across the state under contract, as discussed in Section 3.1.6. Unlike certification for operators, no incentives exist for managers and officials to participate in drinking water training and were reflected in attendance. It may be useful to examine ways to get local officials involved in water related issues. The training modules are available for managers, officials, or anyone who would like to review the material or conduct a class to interested parties.

The financial assessments continue in FY 2006 as discussed in Section 3.1.5. The on-site visit of the assessment is attended by the waterworks superintendent or director of public works. On-site visits that included a local official, such as the township clerk or a city manager, appeared to be more productive. All parties were able to participate in the discussion with the MDEQ financial expert and voice concerns. As a result, when the on-site visit is scheduled, the MDEQ will ask that both the water department representative and a local official be present at the on-site meeting to ensure open communication between all parties.

3.5 Modify Strategy

The strategy remained unchanged during the reporting period. The MDEQ is continuing to implement the original strategy of moving from capacity assessment through assistance to development.

4.0 Summary

Michigan is continuing to implement a program for new systems and a strategy for existing systems as set forth in May and August of 2000, respectively. The new systems program retains the legal authority and the control points established in 2000. A list of new systems in the last three years is included in this report and indicates which systems have appeared on an SNC list during those years.

The strategy for existing systems established in 2000 has remained the same though the specific tools and activities used to implement the strategy have been added, removed, or altered as needed. The DWP continually identifies systems in need of capacity development primarily through the sanitary survey process. During the reporting period, needs were identified and discussions were held to determine what areas in the capacity development efforts could be created or enhanced. A review of implementation of various activities of the strategy occurred and changes were made. The strategy was not modified.

Appendix A: List of New Systems

New CWS
FY 2004 through FY 2006

PWSID[1]	CWS Name	FY Added to SDWIS/S[2]	SDWIS/S[2] Active Date	SNC[3]
MI0000716	BINGHAM TOWNSHIP	2006	02/14/06	
MI0000733	BLACK BEAR FARMS	2006	08/30/06	
MI0000795	BLUE WATER VILLAGE, L L C	2006	12/19/05	
MI0000894	BROOK OF HOUGHTON LAKE	2006	05/22/06	
MI0001565	COLUMBIA LAKES ESTATES	2006	02/23/06	
MI0002115	ELMWOOD TOWNSHIP	2006	12/19/05	
MI0003098	HAWKS LANDING CONDOMINIUM ASSOCIATION	2006	06/27/06	
MI0004935	OGEMAW TOWNSHIP	2006	12/19/05	
MI0005033	HUNTMORE ESTATES	2006	12/19/05	
MI0005849	SADDLE RIDGE CONDO ASSOC.	2006	08/30/06	
MI0006026	PORT SHELDON TOWNSHIP	2006	12/19/05	
MI0006423	STONE RIDGE	2006	05/22/06	
MI0006574	THE SHORES ON CROOKED LAKE	2006	12/19/05	
MI0006594	THORNTON FARMS	2006	05/22/06	
MI0007057	WEST TRAVERSE TOWNSHIP	2006	05/16/05	
MI0002360	FORESTVILLE, VILLAGE OF	2005	12/14/04	
MI0002982	HANDY TOWNSHIP - RED CEDARS CONDOMINIUMS	2005	06/01/05	
MI0003724	LAKE MICHIGAN HILLS GOLF CLUB CONDOMINIUMS	2005	10/18/04	
MI0005229	THE PENINSULA DEVELOPMENT LLC	2005	12/22/04	
MI0006431	STONEY CREEK VILLAGE APARTMENTS	2005	06/01/05	
MI0007126	WINDJAMMER COVE CONDOMINIUMS	2005	08/26/05	Yes
MI0000575	BELLE OAKES ASSISTED LIVING CENTER	2004	02/11/04	
MI0000838	RIDGE VALLEY OF MILFORD	2004	02/11/04	
MI0001915	DUNVERNAY PARK APARTMENTS	2004	11/20/03	
MI0003829	LEELANAU CO LAW ENFORCEMENT CENTER	2004	01/29/04	
MI0004595	MYSTIC RIDGE L.L.C.	2004	05/19/04	
MI0006568	MANCELONA AREA WSA - THE CHIEF	2004	05/10/04	
MI0040680	WOODFIELD MH COMMUNITY	2004	08/25/04	
MI0040681	ALTO MEADOWS	2004	11/18/03	
MI0040682	HIDDEN CREEK ESTATES	2004	02/11/04	
Total	30			1

[1] Public Water System Identification Number (PWSID)
[2] Safe Drinking Water Information System/State (SDWIS/S)
[3] Noted CWS was on a SNC list in FY 2004 through 2006.

New NTNCWS
FY 2004 through FY 2006

PWSID[1]	NTNCWS Name	FY Added to SDWIS/Fed[2]	Michigan Inventory Add Date	SNC[3]
MI0120217	ALCONA HEALTH CENTER - LINCOLN	2006	02/23/06	
MI0320634	ACRDC/PULLMEN HEADSTART	2006	02/23/06	
MI2420356	FITNESS PLUS/STEPPING STONES DAYCARE	2006	12/21/05	
MI2521580	AL SERRA AUTO PLAZA	2006	12/21/05	
MI2521583	RITE AID STRIP MALL	2006	02/23/06	
MI3320187	COLLINS & AIKMAN PLASTICS	2006	12/21/05	
MI3420265	BERGER MOTOR SALES, INC.	2006	05/17/06	
MI4421815	MURPHY ELEMENTARY SCHOOL	2006	12/21/05	
MI4620649	BIRTH, TODDLER AND BEYOND	2006	08/15/06	
MI5020352	GRACE COMMUNITY CHURCH	2006	05/17/06	
MI5020364	TAKATA AUTOMOTIVE SYSTEMS LAB	2006	12/21/05	
MI5820432	CROSSROADS CHURCH	2006	08/15/06	
MI5820435	PINNACLE TECHNOLOGY	2006	05/17/06	
MI5920572	WAL-MART	2006	12/21/05	Yes
MI6220283	PROVIDENCE CHRISTIAN HIGH SCHOOL	2006	12/21/05	Yes
MI6322847	SCHUPAN RECYCLING	2006	08/15/06	
MI6720177	EVART WELL #7	2006	12/21/05	
MI6920224	MDOT NORTH REGIONAL BUILDING	2006	05/17/06	
MI7520246	MEDTEC	2006	12/21/05	
MI8120522	BALANCE TECHNOLOGOES INC.	2006	12/21/05	
MI8120538	HUMANE SOCIETY OF HURON VALLEY	2006	05/17/06	
MI8120539	DEXTER BUS GARAGE	2006	12/21/05	
MI8120540	MEGAS PROPERTIES/GENTNER TRUCKING	2006	12/21/05	
MI8120553	DANMAR PRODUCTS	2006	12/21/05	
MI8120555	GARDNER-WESTCOTT COMANY	2006	02/23/06	
MI8120560	ANN ARBOR COUNTRY PRESCHOOL	2006	05/17/06	
MI0420148	RA TOWNSEND COMPANY	2005	06/04/05	Yes
MI0620212	WEE WESLEYAN LEARNING CTR./STERLING WESLEYAN	2005	03/05/05	Yes
MI1620441	CHEBOYGAN COUNTY RD. COMMISSION	2005	03/05/05	
MI1920579	EAGLE LEDGES INDUSTRIAL PARK	2005	03/05/05	Yes
MI2420346	PRESTON FEATHER BUILDING CENTER	2005	06/04/05	
MI2521575	WEYI TV 25	2005	03/05/05	Yes
MI2620122	ROLL-RITE, LLC	2005	03/05/05	
MI3320180	DELHI DEVELOPMENTAL LEARNING CENTER	2005	03/05/05	
MI3320183	ROCKING HORSE PRE-SCHOOL	2005	03/05/05	
MI4421690	MAPLE GROVE ELEMENTARY	2005	08/06/05	
MI4620647	COMCAST CABLE	2005	08/06/05	
MI4920671	CEDAR COVE MANOR	2005	08/06/05	
MI5620082	THREE RIVERS CORP PIPE SHOP	2005	08/06/05	
MI5920577	CRYSTAL HEAD START	2005	03/05/05	

PWSID[1]	NTNCWS Name	FY Added to SDWIS/Fed[2]	Michigan Inventory Add Date	SNC[3]
MI6120441	THE HOP DAYCARE	2005	06/04/05	
MI6322822	SOTA TECHNOLOGY	2005	03/05/05	Yes
MI6322826	REBECCA'S LEARNING CENTER	2005	03/05/05	
MI6322829	ALWAYS UNIQUE CHILDCARE & PRESCHOOL	2005	03/05/05	
MI6520293	CHIPPS & NICHOLS IGA	2005	03/05/05	
MI6520294	KIDS CORNER DAY CARE	2005	06/04/05	
MI7020620	LINCOLN MERCURY DEALERSHIP	2005	08/06/05	
MI7820360	APPLEBEE'S	2005	06/04/05	
MI7820362	OWOSSO MEDICAL PARK BUILDING 200	2005	08/06/05	
MI8020536	FOUROOST DEVELOPMENT	2005	08/06/05	
MI8120531	ANN ARBOR CHRISTIAN SCHOOL	2005	03/05/05	
MI8120551	PRECIOUS ONES DAYCARE	2005	06/04/05	Yes
MI0720052	FORD FORESTRY CENTER	2004	11/12/04	
MI2420332	PELLSTON REGIONAL AIRPORT	2004	11/12/04	
MI2521562	LAKE FENTON HIGH SCHOOL	2004	11/12/04	Yes
MI3320174	HARLAN BIO PRODUCTS FOR SCIENCE, INC.	2004	11/12/04	
MI3620001	CRYSTAL FALLS SPRING	2004	11/12/04	
MI3820812	ABSOPURE #3 - WM YOUNG	2004	11/12/04	
MI4120921	MURRAY LAKE ELEMENTARY	2004	11/12/04	Yes
MI4420577	LITTLE EINSTEIN'S CHILD DEVELOPMENT/PROF. BLD	2004	11/12/04	
MI4620643	HERITAGE PLAZA	2004	11/12/04	
MI4620644	UNDERWOOD CHEVROLET	2004	11/12/04	
MI5020353	AUTOMOTIVE SYSTEMS LAB	2004	11/12/04	
MI5220191	TEACHING FAMILY HOME OF UPPER MICHIGAN	2004	11/12/04	
MI5920567	GRATTON ACADEMY	2004	11/12/04	Yes
MI6322753	SPRINGFIELD TOWN SQUARE	2004	11/12/04	Yes
MI6420289	PETERSON FARMS	2004	11/12/04	Yes
MI6720173	DAY STAR ACADEMY	2004	11/12/04	Yes
MI7220411	COMFORT SUITES	2004	11/12/04	Yes
MI7220412	SUPER WALMART	2004	11/12/04	
MI8120490	SPIRITUS SANCTUS ACADEMY	2004	11/12/04	
Total	71			15

[1] Public Water System Identification Number (PWSID)
[2] Safe Drinking Water Information System/Federal (SDWIS/Fed)
[3] Noted CWS was on a SNC list in FY 2004 through 2006.

Appendix B: Outline of a Typical Financial Assessment and Financial Action Plan

Financial Assessment

Introduction: Population, location, transportation routes, and community characteristics; description of the water system and major projects or concerns such as expansion, securing loans, and meeting new drinking water standards; and major financial shortfall such as the need for a rate methodology.

Requested Information: Budget, last two years of audited records, water use and water rate ordinances, latest rate ordinance or resolution, recent rate or feasibility study, and contract or service agreements with outside customers.

Submitted Information: Supply usually does not provide all the information requested.

Analysis: Summary or highlights of each of the documents provided by the supply.

On-site Meeting: Date and attendees; and list of items discussed, such as the financial concerns, the billing method, and major recent projects.

FAP

Goal One: Develop the financial capability to fund present and future needs.

Task 1: Develop a capital improvement projects plan.

Step 1: List anticipated water projects.
Step 2: Estimate the cost of each project to be funded.
Step 3: Project the anticipated date the project is to begin.
Step 4: Calculate the dollar amount necessary to be set aside annually.
Step 5: Establish a line item in the budget for capital improvement expenditures.

Task 2: Develop and implement a rate setting methodology.

Step 1: Identify water system expenses.
Step 2: Identify replacement expenses and fund the replacement account.

Goal Two: Establish the legal and managerial capability to protect the water system.

Task 1: Develop a penalties section in the water ordinance.

Task 2: Adopt the amendment to the ordinance.

Tools Included With FAP

Sample resolution, sample water use and rate ordinance, service agreement checklist, DWRF informational brochure, project plan preparation guide, and securing a DWRF loan fact sheet.